

# ABSTRACT

A system and method relating to the measuring of torque in a rotating shaft is provided. An optical torque sensing system comprises a rotating shaft, wherein a sleeve of photo-elastic material overlays a portion of the shaft. A light emitting component delivers light into the photo-elastic material, wherein the light delivered by the light emitting component is directed through the photo-elastic material along an axis of the rotating shaft. A capturing component captures the light that exits the photo-elastic material. The exiting light comprises fringe pattern data, and a computing system computes torsion strain of the shaft based at least in part on the fringe pattern information.